FCC §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to 1.1307 (b)(1), 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

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Limits for Maximum Permissible Exposure (MPE)

Limits for Occupational/Controlled Exposure									
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time E , H or S (minutes)					
0.3- 3.0	614	1.63	(100)*	6					
3.0 - 30	1842/f	4.89/f	$(900/f^2)*$	6					
30-300	61.4	0.163	1.0	6					
300-1500	/	/	f/300	6					
1500-100,000	/	/	5	6					

f = frequency in MHz;

MPE Calculation

Predication of MPE limit at a given distance

 $S = PG/4\pi R^2$

Where: S = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW); G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

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^{* =} Plane-wave equivalent power density;

Calculated Data:

Frequency	Conducted Output Power	Antenna Cable Loss	Typical Antenna Gain		Distance	Power Density	Limit
MHz	mW	(dB)	dBi	numeric	cm	mW/cm ²	mW/cm ²
155.0125	50491	2.0	0	1.0	120	0.176	1.0

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Note1: The manufacturer does not specify an antenna to be used with this device, but a typical installation has a gain up to 0 dBi.

Note2: The target power is 45 W (46.53 dBm) ± 0.5 dB = 50491 mW (47.03 dBm)

Radio Exposure Statement:

To comply with RF exposure requirements, a minimum separation distance of 120 cm is required between antenna and all public persons.

Result: Compliant.

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